

Title (en)
JOINT MOVEMENT SUPPORTING DEVICE

Title (de)
VORRICHTUNG ZUR ERLEICHTERUNG VON GELENKBEWEGUNGEN

Title (fr)
DISPOSITIF D'AIDE AU MOUVEMENT DES ARTICULATIONS

Publication
EP 2332508 A1 20110615 (EN)

Application
EP 10790713 A 20100512

Priority
• JP 2010058013 W 20100512
• JP 2009231532 A 20091005

Abstract (en)
When air is supplied by an air pressure regulation part to bellows 211 through 213 of finger joint motion facilitation parts 110 j (where j=1 , ..., 5), the bellows 211 through 213 expand approximately in the shape of circular arcs, since annular grooves on the side of the bellows 211 through 213 opposing a joint are elastically restrained by elastic members 241 through 243. Due to this, the bellows 211 through 213 cooperate, and exert force in the rotational direction to flex the first through the third joints of a finger from their extended states. Next, when air is exhausted from the bellows by the air pressure regulation part, the bellows 211 through 213 contract. Due to this, the bellows 211 through 213 cooperate, and exert force in the rotational direction to extend the first through the third joints of a finger from their flexed states. The forces generated in this manner are transmitted to the joints by transmission members 231 through 234. As a result mounting becomes simple, and also it is possible to facilitate sufficient joint movement for each joint.

IPC 8 full level
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CPC (source: EP US)
A61H 1/02 (2013.01 - EP US); **A61H 1/0237** (2013.01 - EP US); **A61H 1/0262** (2013.01 - EP US); **A61H 1/0274** (2013.01 - EP US);
A61H 2201/5056 (2013.01 - EP US)

Cited by
CN110314066A; CN111936100A; CN110269776A; CN106420278A; CN108186293A; CN110236880A; CN104921906A; CN110393896A; CN109152691A; EP3632396A4; US10688009B2; EP3287114A1; EP3632394A4; US10751244B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)
BA ME RS

DOCDB simple family (publication)
EP 2332508 A1 20110615; **EP 2332508 A4 20141112**; **EP 2332508 B1 20180404**; DK 2332508 T3 20180522; JP 4716456 B2 20110706; JP WO2011043095 A1 20130304; US 2011118635 A1 20110519; US 9138368 B2 20150922; WO 2011043095 A1 20110414

DOCDB simple family (application)
EP 10790713 A 20100512; DK 10790713 T 20100512; JP 2010058013 W 20100512; JP 2010544492 A 20100512; US 201113010250 A 20110120